

INVENTOR: Hoffman, David M.

S/N: 09/683,888

# **REMARKS**

Claims 1, 4-25, and 28-31 are pending in the present application. In the Office Action mailed August 7, 2003, the Examiner rejected claims 9-22 and 29-30 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Examiner next rejected claims 1, 4, 7, and 8 under 35 U.S.C. §102(b) as being anticipated by Bourdinaud et al. (USP 5,03,099). Claims 23-25 were rejected under 35 U.S.C. §102(e) as being anticipated by Gross et al. (USP 6,310,352). Claims 1 and 4-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gross et al. in view of Bourdinaud et al. Claims 9-14 and 31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Gross et al. in view of Bourdinaud et al. Claims 15, 16, and 19-21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hoffman (USP 6,115,448) in view of Gross et al. Claim 22 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hoffman and Gross et al. and further in view of Bourdinaud et al. The Examiner rejected claims 15, 17, and 18 under 35 U.S.C. §103(a) as being unpatentable over Crawford et al. (5,901,198) in view of Gross et al. Claims 28-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over Hoffman in view of Gross et al.

Applicant appreciates the Examiner's withdrawal of the objections to the drawings set forth in the previous Office Action. Applicant likewise appreciates the Examiner's consideration of the remarks filed May 20, 2003.

Regarding the rejection of claims 19-22 and 29-30, Applicant has amended claim 19 to remove the reference to a "laser" and how the optically stimulated material is charged. As noted by the Examiner, the specification sets forth a number of means by which the optically stimutable material may be charged. However, claims 19-22 and 29-30 are not directed to "how" the optically stimutable material is charged or causes a cascading of optical emissions. Rather, claims 19-22 and 29-30 define that the optically stimutable component is formed or fabricated from a material(s) that will output light at an intensity greater than that received. These characteristics of the optically stimutable material are set forth in the Detailed Description portion of the application. As such, one skilled in the art would clearly consider claims 19-22 and 29-30 enabled.

Claims 1, 4, 7 and 8 stand rejected under 35 U.S.C. §102(e) as being unpatentable over Bourdinaud et al. The reference, as clearly shown in Figs. 1 and 3-6 of '099, discloses a multitude of parallel arranged, fluorescent optical fibers that are

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placed against one another and attached to a face of a plate. See col. 4, ll. 28-36. Further, the reference teaches transference of scintillation light from the face plate to the optical fibers in a direction that is generally perpendicular to the path of x-ray incidence on the scintillator plate. See Figs. 1-4. Specifically, Bourdinaud et al. teaches that "the scintillation counter emits a visible light which excites the fluorescent material with which the core of fibers 4 is doped." Col. 4, ll. 50-53. As shown in Figs. 1-4, the fluorescent fibers are positioned adjacent to the scintillation plate such that transference of the visible light must be in a direction generally perpendicular to x-ray incidence.

In contrast, claim 1, as amended, calls for a scintillator cell comprising a block of scintillating material and a block of optically stimulatable material that are arranged in a discretely layered stack. Further, the claimed cell is configured such that light generated by the scintillating block in response to the incidence of electromagnetic energy is received by the optically stimulatable block along a path substantially parallel to the path of incidence. The optically stimulatable material is designed to output light generally parallel to the incidence path and at an intensity that exceeds the intensity of the light received from the scintillating material block.

Unlike that disclosed by the reference, the scintillating material and the optically stimulatable material are each formed into a block that are arranged to form a discretely layered stack. Bourdinaud et al. discloses multiple fibers that lay across the face of a scintillation plate. As is clearly shown in the figures of '099, Bourdinaud et al. fails to teach or suggest blocks of material such as that claimed. Simply, the fibers disclosed by the reference are significantly and substantially different from the called for optically stimulatable block of claim 1.

Additionally, claim 1 calls for orientation of the optically stimulatable component and the scintillation component such that electromagnetic energy incidence, scintillation light output, and stimulatable optical light output are all along the same general path. Bourdinaud et al. clearly teaches transmission of light from a scintillation plate to optical fibers along a path that is not parallel to the path of x-ray incidence. See Figs. 1-4/

For at least these reasons, Applicant respectfully believes that which is called for in claims 1, 4, 7 and 8 is patentably distinct from that taught by Bourdinaud et al.

Claims 23-25 stand rejected under 35 U.S.C. §102(e) as being anticipated by Gross et al. Applicant has amended claim 23 remove the alternative recitation of "intermixing the first component and the second component in a single composite

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structure". The reference, as acknowledged by the Examiner, fails to teach or suggest a method of manufacturing whereby scintillating material and optically stimulatable material are each respectively formed into a layer and connected to one another in a discretely layered stack. As such, Applicant believes that which is called for in claims 23-25 is patentably distinct from that disclosed by Gross et al.

Claims 1 and 4-8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gross et al. in view of Bourdinaud et al. Applicant respectfully refers the Examiner to the remarks set forth above with respect to the amendments made herein to claim 1 and the distinctions between that which is claimed and that taught and/or suggested by Bourdinaud et al. The references relied upon by the Examiner fail to teach that which is called for by claim 1 as amended. Withdrawal of the rejection is therefore requested.

The Examiner rejected claims 9-14 and 31 as also being unpatentable over Gross et al. in view of Bourdinaud et al. Applicant has amended claim 9 to clarify that the photodiode detects light energy output from the fiber optic scintillator along a direction that is generally parallel to a path of high frequency electromagnetic energy incidence on the scintillator. As shown in Fig. 4 of '352, Gross et al. teaches light output from a scintillator along a direction that is not parallel to a path of x-ray incidence on the scintillator. Accordingly, notwithstanding that disclosed by Bourdinaud et al., the combination of references fails to teach or suggest that which is presently claimed.

Claims 15, 16, and 19-21 were rejected as being unpatentable over Hoffman in view of Gross et al. Applicant has amended claim 15 to clarify that the scintillator array is configured to output light energy along a path generally parallel to a path of electromagnetic energy projection. As noted above and further shown in Fig. 4 of '352, Gross et al. teaches away from the output of light along a direction parallel to an x-ray projection path. As shown in Fig. 4 of '352, Gross et al. teaches light emissions in a direction that is orthogonal to x-ray incidence. Therefore, notwithstanding that taught by Hoffman, the combination of references relied upon by the Examiner fails to teach or suggest that which is presently claimed.

Regarding claim 22, Applicant disagrees with the Examiner with respect to the art as applied but in light of the claim depending from what is believed an otherwise allowable claim, Applicant does not believe additional remarks are necessary and requests allowance of claim 22 based on the chain of dependency.

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Claims 15, 17, and 18 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Crawford et al. in view of Gross et al. Notwithstanding that taught by Crawford et al., as noted above, Gross et al. fails to teach or suggest that which is claimed. Moreover, Gross et al., as shown in Fig. 4 of '352, teaches away from that which is claimed. As such, a rejection predicated upon Gross et al. cannot be sustained. Withdrawal of the rejection is requested.

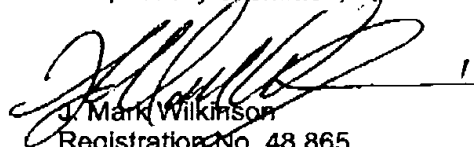
Regarding claims 28-30, Applicant respectfully refers the Examiner to the remarks set forth above with respect to the Examiner's previous reliance on the combination of Hoffman and Gross et al. Applicant has amended claim 28 and, as such, Applicant believes that which is called for in claims 28-30 is patentably distinct from that taught and/or suggested by the art of record. Allowance thereof is therefore requested.

Additionally, claims 1, 4, 6, 10-12, 19, 23-25, 28, and 30 were amended to change "stimulated" to "stimulatable".

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1, 4-25, and 28-31.

Applicant appreciates the Examiner's consideration of these Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,



J. Mark Wilkinson  
Registration No. 48,865  
Direct Dial 262.376.5016  
[jmw@zpspatents.com](mailto:jmw@zpspatents.com)

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**P.O. ADDRESS:**  
Ziolkowski Patent Solutions Group, LLC  
14135 North Cedarburg Road  
Mequon, WI 53097-1416  
262-376-5170

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